Child Development Fact Sheet

Child development is a critical foundation for community development and economic development, as capable children become the foundation of a prosperous and sustainable society. When we invest wisely in children and families, the next generation will pay that back through a lifetime of productivity and responsible citizenship. When we fail to provide children with what they need to build a strong foundation for healthy and productive lives, we put our future prosperity and security at risk.

Science has a lot to offer about how we as a community can use our collective resources most effectively and efficiently to build that strong foundation. The following set of core developmental concepts has emerged from decades of rigorous research in neuroscience, developmental psychology, and the economics of human capital formation—and has survived a rigorous process of debate among the members of the National Scientific Council on the Developing Child about what science can tell us about the foundations of learning, behavior, and health.

- **Brain architecture is constructed through an ongoing process** that begins before birth and continues into adulthood. It's impossible to say that a certain percentage of brain development occurs before a certain age—it's not that simple. It *is* true that the early years are the most active period for establishing the neural connections that comprise our brain architecture—700 new connections form *every second* in the first three years of life. As it emerges, the quality of that architecture establishes either a sturdy or a fragile foundation for all the capabilities and behavior that follow.
- **Skill begets skill as brains are built in a hierarchical fashion**, from the bottom up. Increasingly complex circuits and skills build on simpler circuits and skills over time.
- **The interaction of genes and experience shapes the circuitry of the developing brain.** Young children serve up frequent invitations to engage with adults, who are either responsive or unresponsive to their needs. This "serve and return" process is fundamental to the wiring of the brain, especially in the early years.
- **Cognitive, emotional, and social capacities are inextricably intertwined** and learning, behavior, and both physical and mental health are highly interrelated over the life course. One domain cannot be targeted without affecting the others.
- Although manageable levels of stress are normative and growth-promoting, **toxic stress in the early years can damage developing brain architecture** and lead to problems in learning and behavior, as well as increased susceptibility to physical and mental illness. Precipitants of toxic stress may include severe poverty, serious parental mental health impairments, child maltreatment, and/or exposure to violence, in the absence of stable, nurturing relationships with the adults in a child's life.
- **Brain plasticity and the ability to change behavior decrease over time.** The brain is remarkably adaptable throughout life, but getting it right early is more effective and less costly, to society and to individuals, than trying to fix it later. We can pay now or we will pay more later if we fail to promote healthy development in the earliest years.
- **Effectiveness factors make the difference between early childhood intervention programs that work and those that don't work** to support children's healthy development. These factors can be measured and can inform wise investments in effective policies and programs.